

Mounting the Receiver

A receiver can be used in different mounts. For very accurate locations, only the Tripod mount is suitable.

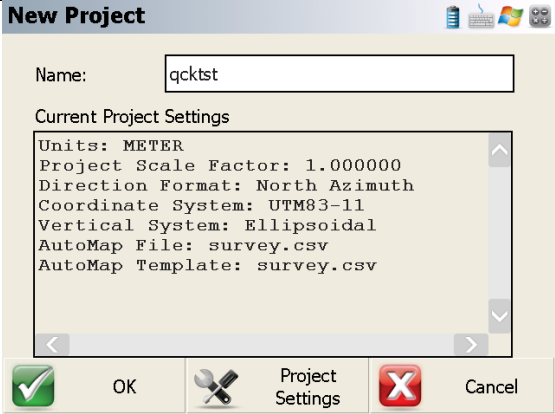
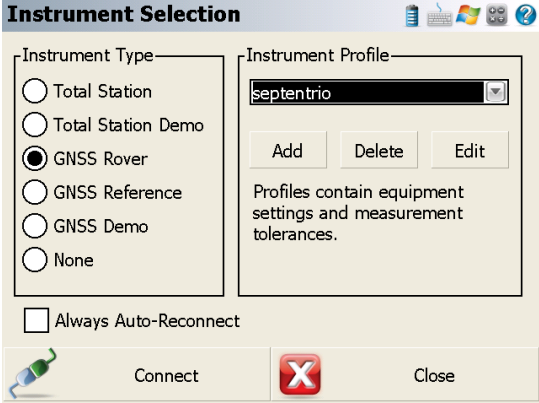
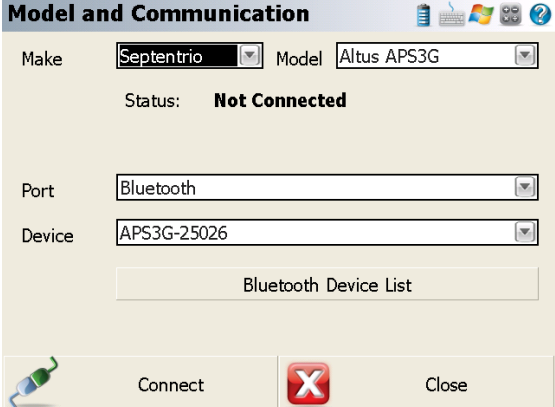
- **ALWAYS connect a UHF antenna before powering ON the APS-3, use the 440-470MHz antennas.**
- Install two batteries per receiver.
- **If not specified below, use the default settings that are already programmed into the controller.**

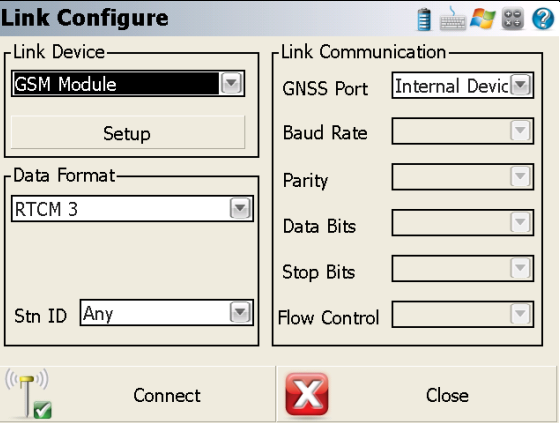
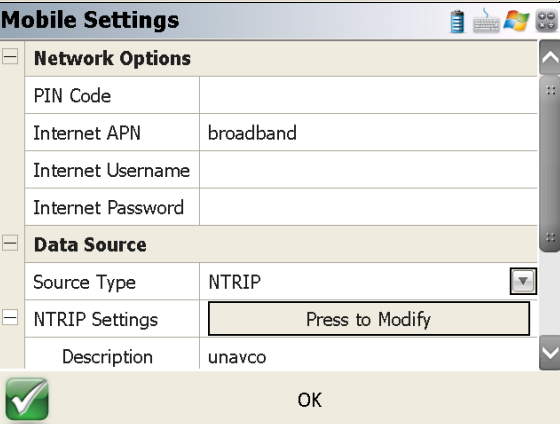
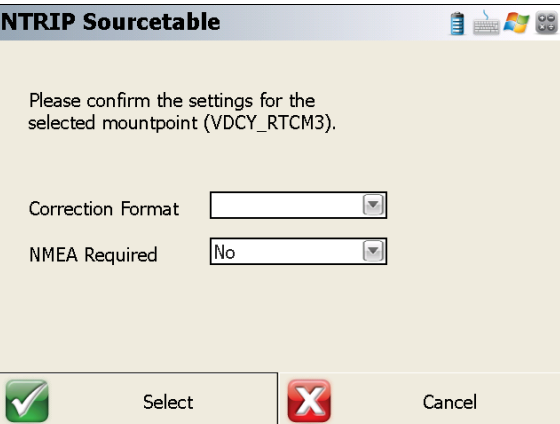
1.1 Pole or Backpack mount

The Receiver can be mounted directly on top of the Backpack or the GPS pole without any adapters. Measure the height from the tip of the pole to the antenna mount, this height will need to be entered (in units of meters) when setting up the receiver with the Controller.

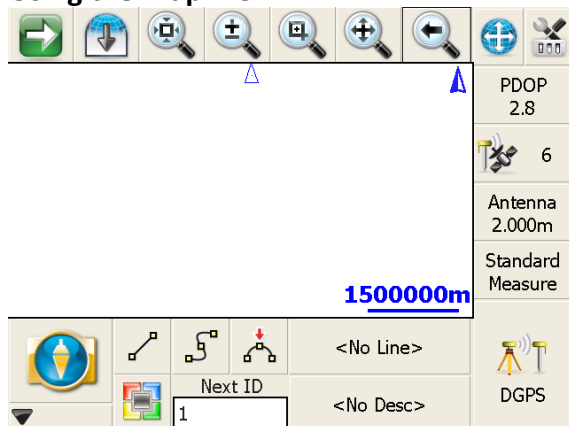
When using the pole, be careful with the very sharp tip of the pole, and make sure not to smash the Receiver into any surrounding objects (trees, buildings, etc.) as you are carrying it from one site to the next.

Turn on the Receiver by pressing the power button on the front face until the LEDs light up.

Instructions for RTK survey with Septentrio unit as Rover, relative to network (Note: make sure to first find suitable local base stations at http://sopac.ucsd.edu/crtn.shtml or https://www.unavco.org/instrumentation/networks/status/pbo/realtime and know your UTM Zone!)			
Window Title	Command	Settings/Display	Comments
Blank	Press power button on Controller	<i>Boot window</i>	Power button is located on bottom right.
Main Controller Window	Tap FieldGenius icon on the bottom right	<i>Field Genius boot window</i>	
Project Manager	New Project		
New Project	Type in name OK		Check current project settings. For CA, longitude>-120 => UTM Zone 11 N; longitude<-120 => UTM Zone 10 N.
Reconnect	Select Instrument		
Instrument selection	Edit		Check settings as shown to left. Instrument Profile: APS3G or Septentrio (depending on which Controller you have).
GNSS Profile	Model and Communication		Check Active Tolerance, should be set to [RTK Fixed].
Model and Communication	Bluetooth Device List		Check settings as shown to left, apart from device which will be set in next step.

Bluetooth Device List	Select correct instrument OR Search* Close		Device # can be found on bottom of Receiver as serial no.
Model and Communication	Connect	<i>Connecting Sensor</i>	Blue LED lights up on Receiver.
Link Configure	Setup		Check settings as shown to left. Note in particular the Data Format, which may get reset to RTCM 2.
Mobile Settings	Press to Modify		Check settings as shown to left, apart from Description which will be set next.
NTRIP Casters	Highlight network Select		
Mobile Settings	OK		
Link Configure	Connect	<i>Connecting Modem</i>	
NTRIP Caster Options	Request Sourcetable	<i>NTRIP Caster</i>	
NTRIP Sourcetable	Highlight station Select	<i>List of stations</i>	
NTRIP Sourcetable	Select		Check settings as shown to left.
Project: name	Map View		
Map View			Window for surveying.

Using the Map View



- Tap on the antenna box to set the proper height of the height to the antenna mount (for the rod, this is simply the length from the tip of the rod to the bottom of the antenna mount).
- The satellite box shows the number of used satellites, which should be at least 5. Tap it to see where they are located.
- Tap on box to the bottom right to see the current measurement and its errors, see the screenshot below. You can select to store the position, if the errors are acceptable to you. The measurement should be of type “RTK fixed or Float”. **If you see the StdDevs consistently decreasing, wait (a few minutes) to get a better solution.**

GNSS Measurement	Store Point
Solution: RTK Fixed Satellites: 5 PDOP: 4.37 <hr/> Real Time Status: High PDOP Horizontal StdDev: 0.017m Vertical StdDev: 0.042m	Point ID: <input type="text" value="1"/> <hr/> Description: <input type="text"/> <hr/> Northing: <input type="text" value="3775896.019m"/> <hr/> Easting: <input type="text" value="382324.515m"/> <hr/> Elevation: <input type="text" value="131.803m"/> <hr/> Antenna Hgt: <input type="text" value="2.000m"/> <hr/> Store As: <input type="text" value="GNSS Point"/>
Post Process Status: Total Time:	<input type="button" value="Review Measurement"/> <input type="button" value="GIS Attributes"/> <input type="button" value="Advanced"/> <input type="button" value="Enter Note"/>
<input type="button" value="Store Position"/> <input type="button" value="Cancel"/>	<input type="button" value="Store Pnt"/> <input type="button" value="Cancel"/>

- When you choose to store a point, the ID of the point will be automatically generated (and increased by 1 each time). You can choose to use a description, but this is not necessary.
- The points will be plotted on the map. You can use the various options on the top bar to zoom in and out, etc. The down arrow on this top bar will add/remove a small window that shows the current location. The bottom-left down arrow will remove/return the bottom bar for a larger map view.
- To export the data to an ascii file for transfer to laptop later, tap the plump bob symbol and select Import/Export, then ASCII Coordinate Export, check the settings with the screenshot below. **Note the name and location of this file!**

Export ASCII File	
Point List	<input type="text" value="All"/>
Precision	<input type="text" value="6"/> Field Delimiter <input type="text" value="Comma"/>
Angular Format	<input type="text" value="Degrees"/> Encoding <input type="text" value="ANSI"/>
<input checked="" type="checkbox"/> Include Header <input type="checkbox"/> Include Averaging Measurements	
Output Format	<input type="text" value="Extended"/>
<input type="button" value="New Format"/> <input type="button" value="Edit Format"/> <input type="button" value="Delete Format"/>	
<input type="button" value="OK"/> <input type="button" value="Cancel"/>	

- Choose Map View in the main menu to return to that screen.
- When the survey is finished, hold down the power button on the receiver until the lights shut off, and in the controller, select the plumb bob symbol and the Exit. All data will be saved on the controller.

Note: for surveys with large distances between points, the receiver and controller can be turned off between points. You can open the old project, and take several short cuts in connecting to the same Rover, and to the same base station in the network (or set it up in the exact same way as the first time). Note that the RCM3 data format will be reset to RCM2, so you will need to change it back.

Transferring Data from Controller to Laptop Using Bluetooth

- From the main Desktop, select **File Explorer** and find the file you would like to transfer.
- Tap and hold on the file icon, which will open a pull down window, from which you should select **Beam File**.
- A new window will appear (see screenshot below), and it will look for available Bluetooth devices. It may take a few seconds before it finds all, and associates them with names.
- Tap on “**Tap to send**” for the device you would like to use.
- If this is the first file in this transfer, you will first have to pair with this device. Work fast here, or else the pairing will fail. Therefore, choose a short password and work with a partner.
- For subsequent files, you will not need to pair again, just “Tap to send” for each file, and tap OK once the file has transferred over. The transfer will fail frequently, but just try, try again. Transfer of multiple files in one transfer has not been done successfully (yet).

